

1 ABSTRACT OF THE DISCLOSURE

2

3 A method predicts performance of a system that includes a plurality of  
4 interconnected components defining at least one data flow path. The method references a  
5 workload specification for the system. The method models the system using one or more  
6 component models. Each component model represents selected one or more of the  
7 components. Each component model is arranged in like relationship to the data flow path  
8 as the selected one or more of the components represented by the component model.  
9 Each component model is (a) a constraint upon the workload specification input to that  
10 component model or (b) a transformer of the workload specification input to that  
11 component model so as to result in one or more output workload specifications that are  
12 input workload specifications to subsequent component models along the data flow path  
13 or (c) both a constraint and a transformer. At least one of the component models is a  
14 constraint. At least some of the component models along the data flow path operate on  
15 the workload specification. In one preferred form, operating on the workload  
16 specification involves arranging the component models in a hierarchy corresponding to  
17 the data flow path; using the specified workload specification as input to the topmost  
18 component model in the hierarchy; and applying one or more of the component models to  
19 its input workload specification, starting with the topmost component model and then  
20 component models at progressively lower levels in the hierarchy. Output workload  
21 specification at one level is input workload specification at the next lower level. If the  
22 component model comprises a constraint, the method evaluates whether the input  
23 workload specification satisfies or violates the constraint. If the component model  
24 comprises a workload specification transform, the method modifies the input workload  
25 specification so as to produce one or more output workload specifications.